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Plain View
Areawide Pest Management for Wheat

Conservation, No-Till go hand-in-hand

About Alton Lerwick

This month, we chose Alton Lerwick as our Grower of the Month. Alton and his family run a farm and cow-calf operation near Stegall in the Nebraska panhandle. In September, The Omaha World-Herald and the University of Nebraska honored Lerwick with the Master Conservationist Award.

By Dave Christian
University of Nebraska, Panhandle Research and Extension Center

Alton Lerwick and his sons, Dean and Grant, run an 1800-acre farm and a cow-calf operation in western Nebraska using continuous cropping, no-till and rotational grazing practices. He is a cooperating grower in the Areawide Pest Management for Wheat program and The Omaha World-Herald and the University of Nebraska awarded him with the Master Conservationist Award on Sept. 27th, 2004.

Alton was raised on the farm that his father purchased after WWII in western Scotts Bluff and Banner counties of the Nebraska panhandle. After earning degrees in agronomy and range ecology from the University of Nebraska and Colorado State University respectively, he came home in 1974 to a wheat-fallow operation on the family farm. Over the years, he experimented with different rotational systems and reduced tillage operations in moving toward no-till. He adopted a three-year rotation of wheat-millet-fallow, but no-till fallow was not practical due to the cost of herbicides. In 1997 he eliminated fallow and converted to the continuous crop no-till system that he has used ever since. There is always a good amount of fine tuning involved.

The Lerwick operation uses continuous cropping without the traditional fallow year, which is common in the area. However, Lerwick pointed out he didn't eliminate fallow, just the most inefficient fallow period in the summer. For example, wheat harvest in July until sunflower planting the following June is a 10- to 11-month fallow period prior to planting sunflowers. In a four year period of a wheat-sunflowers-millet-oats rotation, there are as many months of fallow as in a traditional wheat fallow system.

"Planting sunflowers into wheat stubble seems to work the best because sunflowers without stubble ground cover won't hold the light ground," he said. The sunflowers will then be followed by millet, leaving an October-June fallow period.

"Millet does not root deeply, so it isn't affected by the lack of the deep moisture that the sunflowers have removed. The key is to stay flexible," he added. Lerwick explained a second year of wheat helps maintain residue in drought years. A flexible rotation also helps deal with weed problems. If there is a problem with warm season grasses in the fourth year of the rotation, oats or wheat is planted next. If cool season grasses are a problem, millet is planted next. Sunflowers are always planted into the heaviest residue, which is wheat, because it holds the ground and conserves moisture.

Several principles are important when setting up a continuous cropping system. No-till for moisture conservation, the proper crop sequence-taking into account crop synergism, adequate fertilizer and proper placement, and good weed control are key principles. "Residue creates the no-till advantage," he said. Standing residue is important for trapping snow, and surface residue is important for controlling runoff.

"It's been an experiment, so there have been problems. We've constantly adjusted. It's been difficult to get consistent sunflower stands," he said. One cause is rodent damage. Without tillage, their burrows are never destroyed. Although not a problem since the early 1990s, Russian wheat aphids in the biotype 2 form made a reappearance on one late planted field in 2002-2003.

Rotational adjustments and flexibility usually take care of this problem, as oats or millet are substituted next in the rotation if the wheat will go in too late in the season. There has been far less damage from sawflies in no-till wheat fields. Possible explanations may be the rotation disrupting the insects' life cycle or fewer field edges in no-till fields.

"The drought has really set everything on its ear. You have to be committed to your system and stick with it long enough to ride out the frustrations."

The whole system has suffered during the drought in the last five years. "The drought has really set everything on its ear. You have to be committed to your system and stick with it long enough to ride out the frustrations. You'll be convinced when there is a downpour that runs off of your neighbor's conventional fields, but not off of yours," he said.

For Alton Lerwick, if the land is properly managed, it can be used for crop production and still provide wildlife habitat and erosion control. We can see benefits on that land in all three areas. Wildlife numbers have increased in the no-till fields, but have also benefited from the planting of shelter belts. More information about Alton is available on our Web site.

We are Areawide Pest Management for Wheat, a five-year project developed by the USDA Agricultural Research Service, to demonstrate pest management practices for the Russian wheat aphid and greenbug. Our main goal is to collaborate with wheat producers in evaluating and demonstrating non-chemical pest management techniques, with particular emphasis on the management of the Russian wheat aphid and the greenbug. The elements of our program include:

- *Crop Diversification*
- *Variety Selection*
- *Field Monitoring and biocontrol*
- *Best Management practices for Wheat*

Alton expressed gratitude in the help provided by our Nebraska research team. "UNL research has helped our operation directly with plant breeding, entomology sampling, alternative crop research, and research on other things that have fit into our program. Information from your own farm is more applicable than that done a 100 miles away," he said.

For more information about how Alton Lerwick uses crop rotation, no-till practices and control for pests, please visit our Grower of the Month page on our Web site. More in-depth information about our goals is also available on our Web site.

WE'RE ON THE WEB!

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